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(56) Documents Cited

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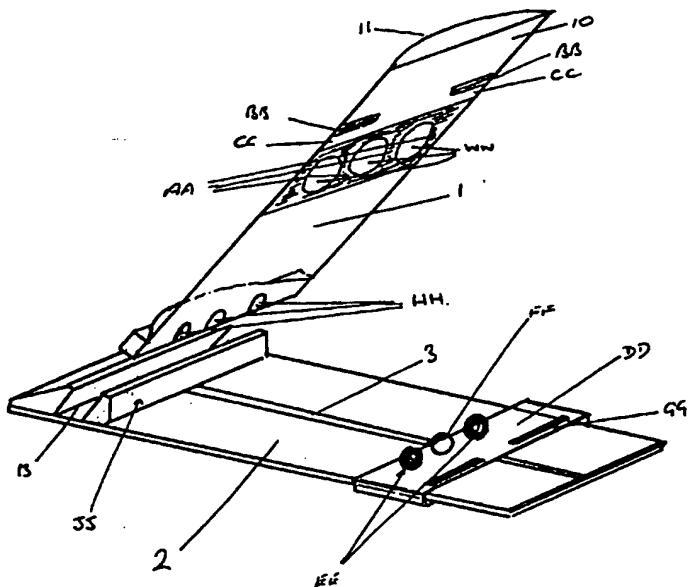
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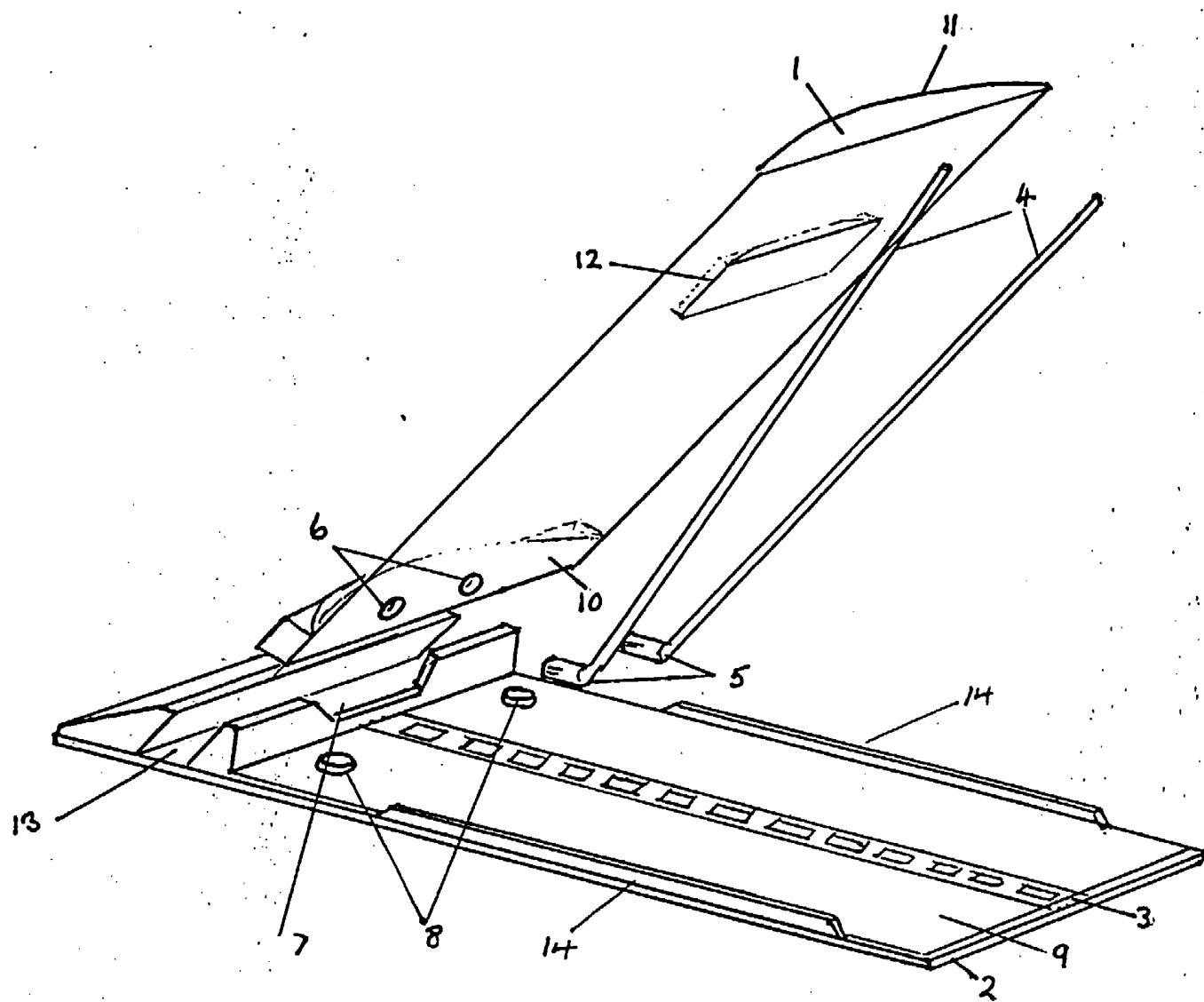
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(54) Body movement monitor

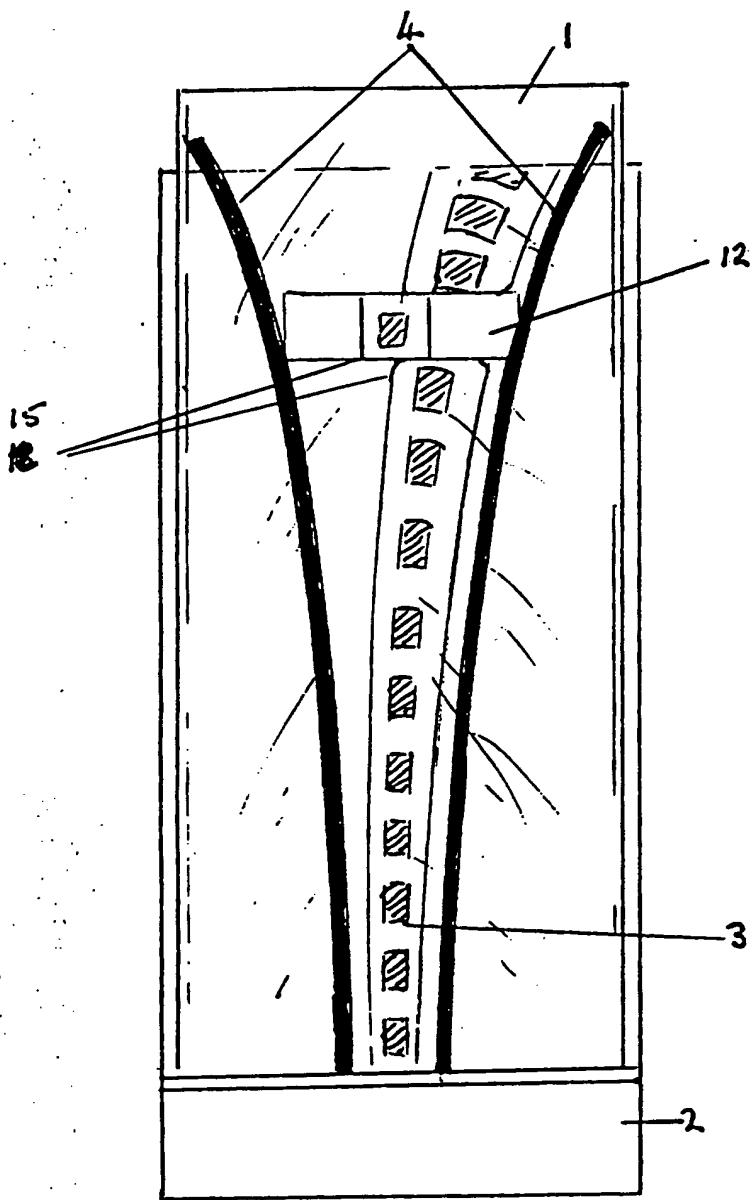
(57) An optical device which monitors the degree of body movement during a golf swing comprises a base 2 provided with markings 3 and a lens 1 arranged at a predetermined angle to the base. A sliding support DD carries balls EE, FF and additional markers and apertures may be provided.

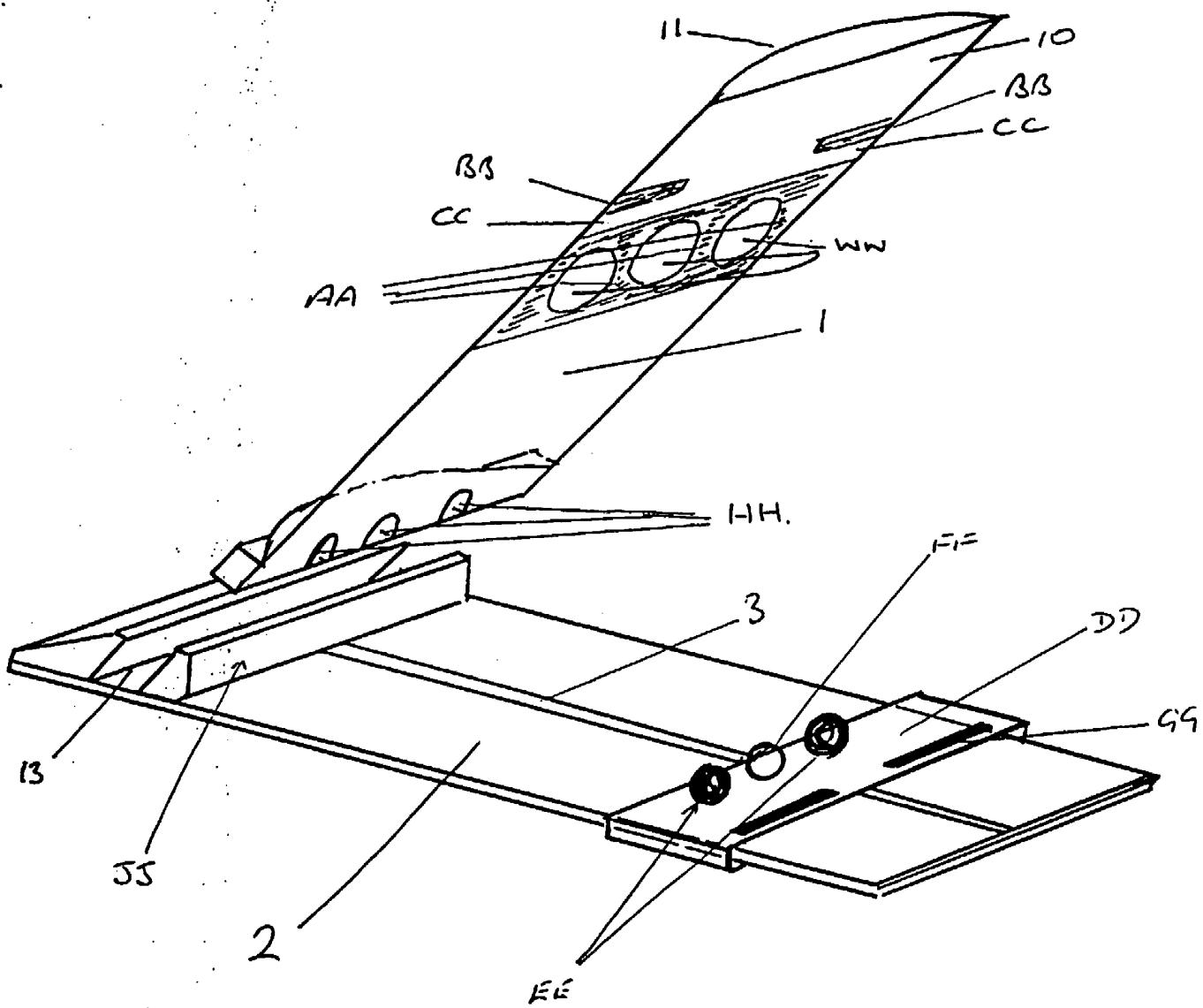


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TECINICAL FIELD

This invention relates to a visual training aid.

One of the principle areas of a golfers swing which causes deficiency in performance is upper body movement. The purpose of this invention is to provide a visual means to detect the amount of body movement detectable in the golfers swing and provide adjustable markers and indicators for individual nuances purporting to the size, strength, age and gender of the golfer.

The device comprises of an optical element (1) supported by a base unit (2) at a predefined inclination whereby refraction of light creates the illusion of a flexible line (3) on the base plate moving in relationship to the golfers body movement when viewed through the lens (1). The base plate (2) further comprises of a sliding ball carriage (DD) with balls (EE & FF) and markers (GG) which appear to move, disappear and reappear in relationship to the golfers body movement when viewed through the lens (1) which also comprises of masked areas (AA & BB) forming small windows (WW) and apertures (CC).

The optical unit (1) also comprises of two or more markers (4) as indicators defining acceptable latitudes of movement and can be static or adjustable to allow the golfer to calibrate the device according to the amount of body movement deemed acceptable to him/herself.

These markers (4) may consist of curved sprung steel wires or other suitable material of which one end is inclined at 90° and set into split pin locators (5) which are mounted in corresponding location slots (6) on the base of the lens (1). These markers (4) may also be static and adhered to or printed onto the lens (1).

The base plate (2) is constructed as a flat board with a raised location slot (13) to house the lens (1) at one end. The location slot (13) is recessed (7) to accept the locator pins (5) of the adjustable markers (4). The base plate (2) also comprises of a raised border (14) on the uppermost surface with locator pins (8) suitably positioned to accept and retain separate cards (9) displaying alternative graphical interfaces which form markers of varying shapes and colours to be viewed through the lens (1). Such markers and graphics are designed to accomodate the varying properties of sight deficiency. The base unit (2) also comprises of a sliding carriage (DD) on which are positioned one or more balls (EE & FF) and markers (GG).

The lens (1) comprises of one flat plane (10) and one convex or concave plane (11) and is constructed out of glass or clear material such as acrylic or plastics. Both planes are opposite to each other forming the lens (1) which refracts light creating the illusion of movement of static markers, balls or other graphic illustrations so positioned at predefined planes and distances from the lens (1).

The lens (1) can also incorporate a small window (12) with directly opposite sides inclined on the same plane so as not to distort or create the illusion of movement of markers or graphic on the base plate (2). The effect of such window (12) in the lens (1) causes the illusion of marker line (3) on the base plate (2) to be broken at a central point (15) thereby emphasising the deflection of the marker line (3) and provides a centralising indicator for the golfer when viewing the lens (1).

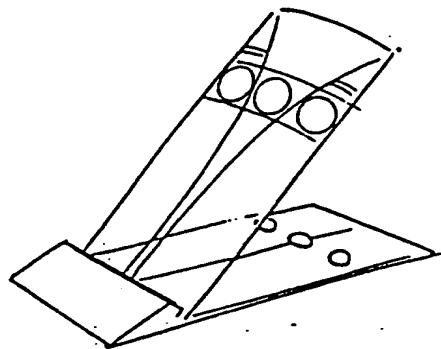
Similarly the lens (1) can comprise of more than one window (WW) of which the focal properties are the same as the lens (1). Such windows (WW) are formed by a translucent screen (AA) which conceals the balls (EE & FF) when viewed from certain angles through the lens (1) and provides the means for the disappearing and reappearing of the balls (EE & FF).

Likewise small apertures (CC) formed between translucent screens (AA & BB) are so arranged to illustrate vertical and backwards and forwards motion by the golfer by way of the markers (GG) on the ball carriage (DD) moving, disappearing and reappearing upwards or downwards.

The foot of the lens (1) also comprises of slots (I & H) so positioned as to trap the balls and carriage (DD & FF) against the bulkhead (JJ) of the location slot (13) on the base plate (2) to facilitate easy packing.

MAGIC EYE

Good grip, alignment, stance, posture are important fundamentals for a successful golfer's swing. All these can be ruined by excessive upper body movement whether it be swaying, rocking, tilting or reverse pivot.



Magic Eye is Here to Help You

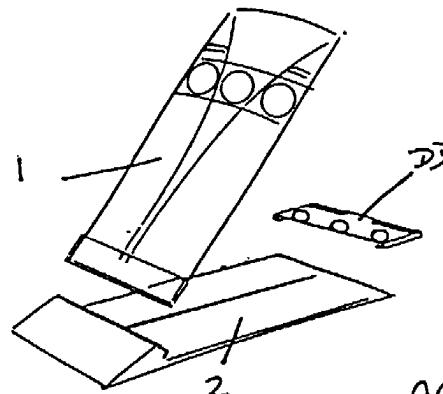
Magic Eye monitors your swing and shows you precisely how much your upper body is moving. It also encourages you to coil your body correctly with the right amount of weight transfer. This is a sure way to produce a consistently controlled and powerful ball strike.

Driving range, garden, sitting room or office, Magic Eye can be used anywhere to help you improve your game.

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Assembly and Set Up

Take the lens, base plate and ball carriage out of the wallet. Slide the ball carriage over the base plate with the balls nearest to the lens housing and the black markers furthest away. Insert the lens with the frosted border at the bottom firmly into the housing with the curved surface of the lens facing outward.

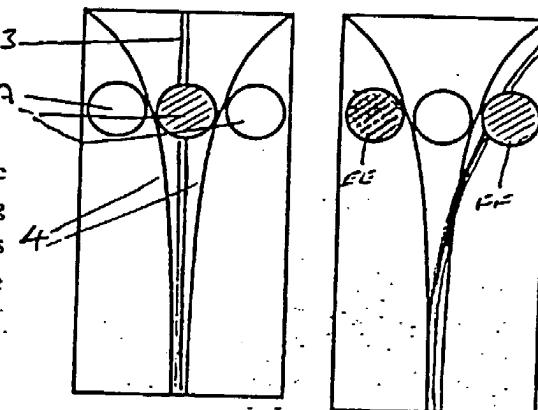


Place Magic Eye on level ground just outside your normal ball position and stand facing the screen. Take up your usual address position and adjust the ball carriage until the white ball is centred in the middle window. This may take several attempts.

Magic Eye can be used indoors or outdoors with or without a club.

Weight Transfer

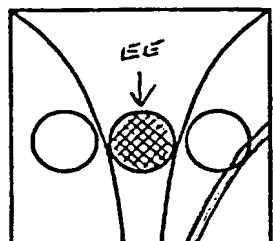
At address ensure you see the white ball centred in the middle window. You will now see the marker line on the base plate running up the middle of the lens. As you make your backswing, you will see the marker line move to the right. At full shoulder turn you will see the white ball move to the right hand window and a red ball appear in the left hand window. You will also see the line on the base plate move just beyond the guide line on the lens unit. On the down swing at correct impact position you will see the white ball return to the middle window and the red ball disappear. The marker line will also return to the centre.



For left hand golfers the reverse happens.

Swaying

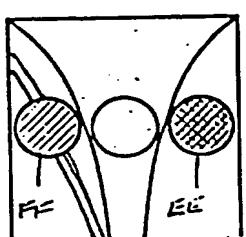
If you sway your body excessively you will see the white ball disappear and the red ball appear in the middle window. You will also see the marker line swing violently to the right or left depending whether you are right or left handed.



Reverse Pivot

Reverse pivot is caused by your weight incorrectly transferred to your left side during your backswing. This is shown by a red ball appearing in the right window and the white ball moving to the left window. The marker line also moves to the left.

For left handed golfers the reverse happens.

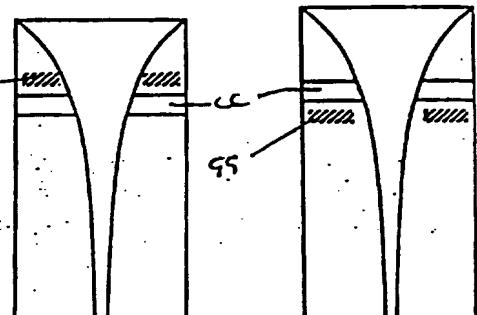
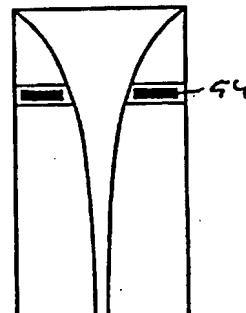


Rocking and Tilting

If you rock backwards or forwards or tilt during your swing you will see the black markers above the side windows disappear upwards or downwards.

dipping and lifting

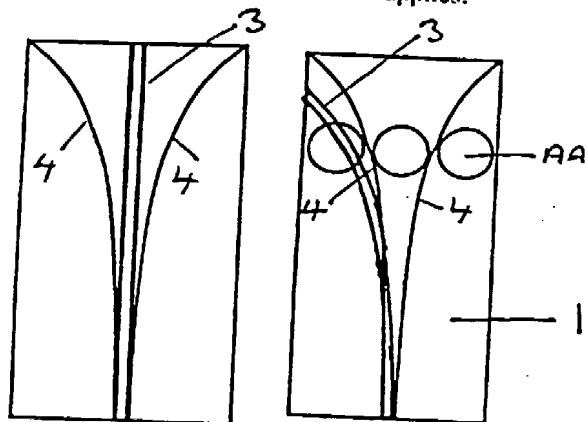
If you dip or lift during your swing you will also see the black markers above the side windows disappear upwards or downwards.



Chipping

For successful chipping, a still body and head with the weight on your left side is important. To achieve this, take a narrow open stance, (ie align your body slightly to the left of the target) ensuring the marker line is centred in the lens. Move your weight on to your left side. You will notice the marker line moves with you towards the left hand guide line.

For left hand golfers the reverse applies.



Putting

As putting requires a motionless body, take your normal putting stance and ensure the marker line is centred in the lens. To achieve success throughout your putting stroke, keep the marker line as still as you possibly can.

Fine Tuning

As no two golfers are alike, the markers and guide lines on the magic eye are calculated for the average golfer. You can decide for yourself, or with the help of your professional, what movement is appropriate for you. Use the guide lines as a reference point to enable you to repeat your swing successfully.

Using Magic Eye regularly will ensure a repeatable and successful swing putting you well on the way to reducing your handicap and hitting the ball cleanly with considerably more power.

HAVE FUN AND GOOD GOLFING

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CLAIMS

- 1) The optical unit creates the illusion of a moving marker line in relationship to the upper body movement of a golfer/sportsman
- 2) The optical unit creates the illusion of marker lines and balls moving and disappearing and reappearing in relationship to the upper body movement of a golfer/sportsman
- 3) The optical unit comprises of a small window with opposite faces inclined on the same plane negating the illusion of a moving marker line and creating a static central point to assist the golfer/sportsman in aligning him/herself with the device and providing a starting point and finishing point as being definitive of minimal body movement.
- 4) The optical unit may also comprise of small windows with the same focal properties of the whole lens surrounded by translucent masking creating screens which cause the balls and graphics on the base plate and sliding carriage to move, appear and disappear.
- 5) The adjustable markers on the optical unit provide a means for the golfer/sportsman to calibrate the device in accordance with the amount of latitude applicable to his or her body movement.
- 6) The locating pins and ribbing on the base plate unit facilitate the retention of different interfaces by way of insertion cards prodding alternative graphical interfaces suitable for varying properties of sight deficiency of the golfer/sportsman.
- 7) The sliding carriage on the base plate provides a means of adjustment to suit the comfort of the golfer.

ILLUSTRATIONS

The following illustrations describe the embodiment of the invention showing individual pieces ad proposed assembly of the device for use as a visual practice aid.



Application No: GB 9601146.5
Claims searched: 1 to 7

Examiner: Alan Blunt
Date of search: 10 April 1997

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): A6D (D13C)

Int Cl (Ed.6): A63B 69/36

Other:

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X,E	GB2292892A (FOSTER) - whole document	1 to 7
X	GB2118049A (GOODING) - whole document	1 to 7
X	GB430844 (BERRY) - whole document	1 to 7
X	WO82/03018A1 (MITCHELL) - whole document	1 to 7
&	US4483536 (MITCHELL)	

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.